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ABSTRACT

A project was conducted at La Montana Regional College, a two-year institution in the central mountain region of Puerto Rico, to design a system by which solid, empirical evidence of institutional goal achievement could be collected. The project involved four components: a study of the literature on institutional goal achievement and the appropriate means for measuring goal achievement; a revision of the mission and goal statements of La Montana; approval from the college administration of the revised goal statements; and the design of appropriate progress measures for each goal. The project report includes a literature review, a discussion of the purpose and design of the study, background information on the college, an enumeration of institutional goals and the progress measures to be applied, and a time table for the design of outcome studies (e.g., attitude studies, graduate follow-ups, cost/benefit analysis of human resources, needs assessment of continuing education, and program evaluations). (LAL)

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UNIVERSITY OF PUERTO RICO
Administration of Regional Colleges
LA MONTAÑA REGIONAL COLLEGE
Utuado, Puerto Rico

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A DESIGN FOR EVALUATION OF THE INSTITUTIONAL GOALS OF LA MONTAÑA REGIONAL COLLEGE

Project carried out for:
INSTITUTE FOR LEADERSHIP DEVELOPMENT
October, 1984

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TABLE OF CONTENTS

Introduction - Review of Literature. 1

Purpose of Study 4

Design of Project. 4

Background - La Montaña Regional College 6

Design for Evaluation of the Institutional Goals of La Montaña Regional College 10

Schedule for Design of Outcome Studies 15

Bibliography 16

The deciding factor in assessing an institution is evidence of the extent to which it achieves the objectives it has set for itself.

Thomas M. Stauffer

INTRODUCTION

Review of Literature

Proponents of Strategic Planning in Higher Education agree that a clear, distinctive statement of the institutional mission and goals and a commitment to achieve them by all College personnel is absolutely essential to the long-term vitality and excellence of a college or university. Arthur W. Chickering (1969) comments: "Impact increases as institutional objectives are clear and taken seriously, and as the diverse elements of the college and its programs are internally consistant in the service of the objectives."

Howard R. Bowen (1977) pointed out the relationship between institutional goals and outcome studies when he wrote:

> What do educators hope will be the results of their efforts? These hopes, though often inconsistent or unrealistic, are the intended outcomes: they are sufficiently achievable to qualify as goals (Revlen, 1973). They are presumably guides to educational decision making and criteria by which actual outcomes can be judged. They are useful starting points in a study of outcomes because they may be regarded as hypothesis about the consequences of higher education and they give guidance as to what to look for by way of actual outcomes.

Once the mission and goals emphasizing the special characteristics of the institution have been agreed upon, accountability to the public demands that evidence of their attainment be produced. John Martin Rich (1981) describes the kind of information the public expects to receive:

To hold schools accountable for results is to regularly require them to tell their public:

- what they hope their students will achieve.
- what their students have achieved.
- what it cost for that level of achievement
- what corrective action has been taken.
- what further corrective action is needed.
- what plans they have to be more productive.

In order to find this information, the institution must carry out what have become known as outcome studies. Thomas Stauffer gives examples of this type of study:

> A concerned institution tests student achievement both in general and specialized areas of the curriculum, both comprehensive and course by course bases, and, when possible, in comparison with student achievement elsewhere. It makes frequent appraisals of the records of its graduates who pursue education beyond the two or four year college level. It surveys alumni opinions. It solicits reports from employers. It does not depend wholly on any indices, but searches and weighs them all for evidence of progress or success.

Alexander Astin of UCLA (1981), described by George Keller as "the leading proponent for reform in this [student outcomes] area", states:

> A high quality institution is one that knows about its students ... Further, the high quality institution has a method for gathering and disseminating this information, enabling it to make appropriate adjustments in programs or policies when the student data indicate that change or improvement is needed. In other words, quality is equated here not with physical facilities or faculty credentials but rather with a continuing process of critical self-examination that focuses on the institution's contribution to the student's intellectual and personal development.

Leonard Romney (1978) carried out a study at NCHEMS (National Center for Higher Education Management) entitled "Institutional Goal Achievement: Measures of Progress." The study was based on a survey of 1,150 persons - faculty, administrators, and trustees at 45 American colleges and universities of six different types. The survey posed to respondents a long list of questions about what their institution's goals should be and how progress toward these goals should be assessed.

The findings of the study were both interesting and relevant to this project. Romney concludes that:

> perhaps the most important conclusion stems from analysis of the kinds of information considered by respondents to be most appropriate for measuring progress toward institutional goals. These were measures pertaining to the quality of the academic experience, the effectiveness of performance, and the utility and satisfaction with acquired skills. Virtually all categories of respondents deemed those measures more appropriate than the conventional measures that are oriented to process and used chiefly in making cost comparisons. With some exceptions, trustess, administrators, and faculty preferred measures of impact and satisfaction: terms such as application, acquisition, participation, employment, sponsorship, recruitment, and utilization occur or are implied throughout the lists of preferred measures. The inference is that respondents preferred such impacts of higher education because they tend to be observable and can either be measured or described in terms that support meaningful assessment of results.

The study produced 14 measures of progress which, in the opinion of the participants, would assess the seven goal areas which were rated as the most important for each of the six types of institutions surveyed. The evidence produced by these measures would be acceptable to the trustees, administrators, and faculty in each type of institution. The fourteen (14) measures are as follows:

- Student ability to apply knowledge
- Continuing active intellectual involvement of former students in other than formal, advanced study
- Course offerings and institutional opportunities pertaining to the development of individual goals, values, and personal growth
- Students and/or former students expressing concern for human welfare and well being
- Employer satisfaction with former students' vocational or professional training
- Scholarly works produced by graduate students and/or former graduate students considered suitable for publication
- Basic research publications or other results of scholarly effort produced by students or faculty members during the past year
- Evaluations and perceptions of members of the community regarding the quality of institutional services available to them.

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- Existence of special courses and programs to meet the needs of particular groups of students

- Institutional policies and procedures developed to protect the exercise of academic freedom by faculty and students

Purpose of the Study

The purpose of this project, A Design for Institutional Evaluation of Outcomes, is to design a system by which solid, empirical evidence of institutional goal achievement at La Montaña Regional College is collected.

Design of Project

The project consisted of four basic tasks. The first task was to study the relevant literature on institutional goal achievement and the appropriate means for measuring goal achievement. The second task called for a revision of the mission and goal statements of La Montaña. After reaching concensus on the goals approval was sought from the College administration. Task four involved the design of appropriate progress measures for each of the goals.

In order to develop the Design for Institutional Evaluation of Outcomes, it was necessary to first revisit and revise the mission and goal statements of the College. La Montaña Regional College is committed to a comprehensive, integrated, ongoing planning process with the participation of all the internal constituents of the College. A Planning Committee, representative of the employees which compose the College personnel, meets annualy to revisit, revise, and up-date the plan.

During the annual revision of institutional goals in 1984, one goal statement was added (#7) and one goal statement rewritten to broaden its meaning (#8). The mission and goal statements were approved by the Planning Committee and the higher administration of the College.

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Each goal statement was then studied in an effort to identify the most appropriate and feasible progress measure which would give feedback to the College Administration regarding its level of attainment. Several outcome studies have already been initiated at the College. It was noted that in most cases each outcome study provided several measures of progress for various goals. For some goals it was discovered that no formal efforts were being made to measure goal achievement. As a result, as the design for the institutional evaluation of outcomes was being developed, it was necessary to identify the measures of progress as those "to be designed" or "already implemented".

For purposes of clarification, the terminology - outcome study - in this project is defined as a "continuing process of critical self-examination that focuses on the institution's contribution to the student's intellectual and personal development" (Astin, 1981). Outcome study refers to studies such as a Follow-up of Graduates or a Comparative Study of Grades which could provide various progress measures. The term - progress measure - is understood by Leonard Romney (1978) as data which demonstrates progress toward the achievement of a goal. An example of a progress measure would be the percentage of graduates employed in their field or the salaries earned by the graduates of a particular program.

The Design incorporates the ten Institutional Goals of La Montaña Regional College. A list of progress measures which will be utilized to measure the productivity and effectiveness of the College in realizing those goals is also presented. If the progress measure is only one aspect of an Outcome Study, the title of the study is named and underlined.

La Montaña Regional College

- Background -

La Montaña Regional College, located in the central region of Puerto Rico, is a two year coeducational institution which was opened in the Fall of 1979. It is one of the six Regional Colleges under the Administration of Regional Colleges of the University of Puerto Rico, a state funded institution. The College was established mainly to provide accessibility to postsecondary education for people of the central mountain region and through some of its programs to contribute to the modernization of the agricultural economy of the Region, by training technical personnel. The responsibility for governance rests with the Council of Higher Education.

La Montaña Regional College began its education program in 1979 with 195 students, offering Associate Degrees in:

1. Agribusiness
2. Farm Management (Crop Production)
3. Food Processing and Distribution
4. Horticulture
5. Pest Control
6. Secretarial Sciences
7. Business Administration

The enrollment increased to 417 in 1980-81. The enrollment in August, 1984 was 557 students. The College received the status of candidate for accreditation from the Middle States Association in June, 1981. The self-study in preparation for final accreditation begins in October, 1984.

The majority of the students applying for admission to La Montaña Regional College come from a region that depends on farming for its subsistence. Around 30 percent of the students presently enrolled at La Montaña belong to families in the poverty level, with annual family incomes of less than $4,000 a year. Over 90% of the enrollment receives federal finantial aid.

This means that if it were not for the alternative provided by a college in their immediate vicinity, they would not be able to obtain post-secondary education.

- Mission -

The purpose in establishing La Montaña Regional College is to provide a two year educational program in modern agricultural technology and closely related disciplines, as well as to offer accessibility to post secondary education to the people of the rural areas of the central region of Puerto Rico.

The cogent need for training and educating agricultural technologists, as well as for updating and re-vitalizing the agricultural productiveness of Puerto Rico becomes patently obvious when one considers the pressures of escalating food requirements of the local population and the agricultural production potential of Puerto Rico.

- Institutional Goals -

1. To train high school graduates in order to enable them to assume leadership and active roles in the rehabilitation of agriculture in the area by offering two-year associate degree programs in such areas as:

    a. Agribusiness
    b. Farm Management
    c. Food Processing and Distribution
    d. Pest Control
    e. Livestock Technology
    f. Horticulture
    g. Fish Farming

2. To prepare high school graduates in service careers to supplement the agricultural economy of the region and the Commonwealth such as: a) Secretarial Science, b) Business Administration, and c) Elementary Education.

3. To prepare high school graduates for transfer to upper division and pre-professional programs at the University level in the different disciplines for which the area has demonstrated need and for which there is a potential for development.
4. To assist students of the College to make an appropriate career choice to help them establish themselves in their chosen career as entrepreneurs or through service employment.
5. To foster a positive image of agriculture and its economic potential among the College community as well as throughout the Island in general.
6. To provide short term courses in continuing education and extension services in agriculture and other areas of interest to the residents of the central mountain region.
7. To provide optimum conditions for learning and teaching by the diligent provision, maintenance, and security of the physical plant and equipment, careful monitoring of finances, and precise record keeping.
8. To develop affinity between the College and the community in order to increase esteem for cultural and esthetical values by promoting the organization of cultural, social, and recreational activities for the benefit of the student, academic, and general population.
9. To assist in the identification, planning, and solution of specific agricultural or economic problems of the region toward which the educational services of the College can contribute including activities in collaboration with private enterprises, as well as, Commonwealth and Federal agencies.

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10. To maintain an ongoing program of evaluation and self-study within each of the units of the College in order to assure appropriateness and currentness of activities/services; to enhance standards of quality; to develop the human resource potential; to contribute to effective communication and unity of purpose in achieving the purpose and goals of the College.

A DESIGN FOR EVALUATION OF THE INSTITUTIONAL GOALS OF LA MONTAÑA REGIONAL COLLEGE

GOALS	PROGRESS MEASURES*
1. To train high school graduates in order to enable them to assume leadership and active roles in the rehabilitation of agriculture in the area by offering two-year associate degree programs in such programs as: a. Agribusiness b. Farm Management c. Food Processing and Distribution d. Pest Control e. Livestock Technology f. Horticulture g. Fish Farming	1.1 FOLLOW-UP STUDY OF GRADUATES OF AGRICULTURAL TECHNOLOGY - Employed in Agriculture - Higher degree pursued in Agriculture - Owners of farms or Agricultural Businesses - Salaries Earned - Evaluation of College Ag Tech Program - Recommend CORMO Ag Tech Program 1.2 COMPARATIVE STUDY OF GRADES OF AGRICULTURAL TECHNOLOGY STUDENTS Grades of Ag Tech students who continue to study Agriculture
2. To prepare high school graduates in service careers to supplement the Agricultural economy of the region and the Commonwealth such as: a) Secretarial Science, b) Business Administration, c) Elementary Education.	2.1 FOLLOW-UP OF GRADUATES OF BUSINESS EDUCATION - Employed in Business - Higher degree pursued in Business - Salaries earned - Evaluation of CORMO Business Programs 2.2 COMPARATIVE STUDY OF GRADES OF BUSINESS EDUCATION STUDENTS

- Studies marked with an asterisk (*) are studies that will be designed. See schedule for Design of Outcome Studies.
- Underlined titles refer to Outcome Studies.
- Progress Measures found in the Outcome Study are listed below it.

GOALS	PROGRESS MEASURES
3. To prepare high school graduates for transfer for upper division and pre-professional programs at the University level in the different disciplines for which the area has demonstrated need and for which there is a potential for development.	3.1 COMPARATIVE STUDY OF GRADES OF TRANSFER STUDENTS Grades of CORMO students who transfer to other UPR campuses show no statistically significant difference from grades earned at CORMO. 3.2 FOLLOW-UP OF TRANSFER STUDENTS AFTER GRADUATION FROM BACHELOR'S* 3.3 QUESTIONNAIRE FOR NEW STUDENTS Students' expectations when beginning college regarding highest degree to be earned compared with expectations at completion of two years at CORMO.
4. To assist students of the College to make an appropriate career choice and to help them establish themselves in their chosen career as an entrepreneur or through employment.	4.1 FOLLOW-UP OF GRADUATES - Employed in their field of study - Own or manage a business - Own or manage a farm
5. To foster a positive image of agriculture and its economic potential among the College community as well as the Island in general.	5.1 ATTITUDE STUDY* Compare the attitudes of incoming students with graduating students concerning agriculture and its economic potential.

- Studies marked with an asterisk (*) are studies that will be designed. See schedule for Design of Outcome studies.
- Underlined titles refer to Outcome Studies.
- Progress Measures found in the Outcome Study are listed below it.

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GOALS	/	PROGRESS MEASURES
6. To provide short term courses and services of continuing education and extension in agriculture and other areas of interest to the residents of the central mountain region.		6.1 NEEDS ASSESSMENT OF CONTINUING EDUCATION IN UTUADO *
7. To provide optimum conditions for learning and teaching by the diligent provision, maintenance, and security of the physical plant and equipment, careful monitoring of finances, and precise record keeping.		7.1 COST-BENEFIT ANALYSIS OF HUMAN RESOURCES*
8. Develop affinity between the College and the community in order to increase esteem for cultural and esthetical values by promoting the organization of cultural, social, and recreational activities for the benefit of the student, academic, and general population.		8.1 ATTITUDE STUDY * Compare the attitudes concerning cultural and esthetical values of incoming students with graduating students.
9. To assist in the identification, planning, and solution of specific agricultural or economic problems of the region toward which the educational services of the College can contribute including activities in cooperation with private enterprises, Commonwealth, and Federal agencies.		9.1 KEEP RECORDS OF ACTIVITIES* Prepare histories annualy that recount the collaboration of the College with other agencies, organizations, and institutions

- Studies marked with an asterisk (*) are studies that will be designed. See schedule for Design of Outcome Studies.
- Underlined titles refer to Outcome Studies.
- Progress Measures found in the Outcome Study are listed below it.

GOALS	PROGRESS MEASURES
10. To maintain an ongoing program of evaluation and self-study within each of the units of the College in order to assure appropriateness and currentness of activities/services; to enhance standards of quality; to develop the human resource potential; to contribute to effective communications and unity of purpose in achieving the purpose and goals of the College.	10.1 ADMINISTER PRE AND POST TESTS* at the program level to measure student progress in reasoning skills and in achievement. 10.2 CARRY OUT OUTCOME STUDIES 10.3 KEEP RECORDS AND EVALUATIONS OF HUMAN RESOURCE DEVELOPMENT ACTIVITIES 10.4 FULFILLMENT OF THE EVALUATION STRATEGIES AS STATED IN THE STRATEGIC PLAN OF THE COLLEGE

- Studies marked with an asterisk (*) are studies that will be designed. See schedule for Design of Outcome Studies.
- Underlined titles refer to Outcome Studies.
- Progress Measures found in the Outcome Study are listed below it.

A schedule for the preparation of the outcome studies to be designed was prepared. This schedule, however, allows for some flexibility since outcome studies are by their very nature, ongoing processes. As Judith Springer, the Institutional Researcher in the Office of Planning and Development of the University of Puerto Rico (and the mentor for this project) has stated: "The process is likely never to be completed. Because efforts such as these take on an inductive mode, new insights and benefits are discovered in the process." The schedule was designed, therefore, with George Keller's statement in mind: "to get all the key people thinking innovatively and acting strategically with the future in mind," accepting that our plan will "involve continuous adjustment to shifting conditions" but always "with a central strategy in mind." George Keller, Academic Strategy (1983).

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SCHEDULE FOR DESIGN OF OUTCOME STUDIES

STUDIES TO BE DESIGNED	1984	1984-85		1985-86		1986-87	
	2nd sem.	1st	2nd	1st	2nd	1st	2nd
1. Attitude Study (Goals 5 & 8)	D	I					
2. Follow-up of Graduates that complete Bachelor's Degree		D	I				
3. Cost/Benefit Analysis of Human Resources (to be developed incrementally)			D	I	I	I	I
4. Needs Assessment of Continuing Education		D	I				
5. **Program Evaluation (Pre & Post Tests)**			D	I			

D - Design Study
I - Implement Study

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